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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/748,673	12/31/2003	Kimmo Hatonen	60091.00276	2769
32294 7590 10/19/2007 SQUIRE, SANDERS & DEMPSEY L.L.P. 14TH FLOOR 8000 TOWERS CRESCENT TYSONS CORNER, VA 22182			EXAMINER HOLMES, MICHAEL B	
			ART UNIT 2121	PAPER NUMBER
			MAIL DATE 10/19/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/748,673	Applicant(s) HATONEN ET AL.	
	Examiner Michael B. Holmes	Art Unit 2121	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE (3) MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 July 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

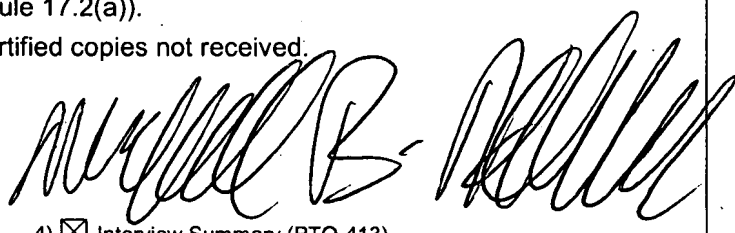
### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.



### Attachment(s)

- |   |  |
|---|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                                  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>05/14/2007</u> . | 6) <input type="checkbox"/> Other: _____   |



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**Examiner's Detailed Office Action**

1. This Office Action is responsive to communication, filed 07/27/2007.
2. Amendment under 37 CFR § 1.111 reconsideration and allowance of application is respectfully requested by applicant.
3. Applicant's arguments have been fully considered, however, they are not persuasive.
4. The rejection under 35 USC § 101 stands.

**Claim Rejections - 35 USC § 101**

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. The invention as disclosed in claims 1-18 are rejected under 35 U.S.C. § 101 as being non-statutory subject matter. *see In re Comiskey*, Case No. 2006-1286, at 8, 16 & 17 (Fed. Cir., September 20, 2007). Only if the requirements of § 101 are satisfied is the inventor "allowed to pass through to" the other requirements for patentability, such as novelty under § 102 and, non-obviousness under § 103. Moreover, "...when an abstract concept has no claimed practical application, it is not patentable."

7. *No preemption is permitted* i.e., when a claim is so broad that it reads on both statutory and nonstatutory subject matter, *it must be amended*. A claim that recites a computer that solely calculates a mathematical formula is not statutory. In other words, one may not patent a process that comprises every “substantial practical application” of an abstract idea, because such a patent in “practical effect would be a patent on the [abstract idea] itself.” Regarding claims 1-18 i.e., “a clustering technique for cyclic phenomena,” would in fact cover virtually any and all forms of clustering techniques for describing cyclic behavior. Further, a physical process can many, many things. Nothing is specified in the claims to limit the invention to a particular application e.g., a cellular telecommunications network. Without clearly stating in the claim a particular application, it *preempts* all forms of clustering techniques for describing cyclic behavior. Where as, the courts have also held that a claim may not preempt ideas, laws of nature or natural phenomena. The concern over preemption was expressed as early as 1852. See Le Roy v. Tatham, 55 U.S. (14 How.) 156, 175 (1852) (“A principle, in the abstract, is a fundamental truth; an original cause; a motive; these cannot be patented, as no one can claim in either of them an exclusive right.”); See Funk Bros. Seed Co. v. Kalo Inoculant Co., 333 U.S. 127, 132, 76 USPQ 280, 282 (1948).

8. The claims fail to provide a “useful, concrete or tangible result.” Moreover, there must be a practical application, by either (1) transforming (physical thing) or (2) by having the **FINAL RESULT** (not the steps) achieve or produce a “useful” (specific, substantial, AND credible), “concrete” (substantially repeatable/non-unpredictable), AND “tangible” (real world/non-abstract) result. Moreover, the claims are directed to an abstract idea rather than a practical application of an abstract idea which would produce a “useful, concrete or

Art Unit: 2121

tangible results.” Accordingly, the claims fail to provide a practical application and is insufficient to establish a real world “tangible” result, *see In re Warmerdam*, 31 USPQ2d, 1354.

9. Claims 13-16 are considered to be directed to a storage device i.e., a computer readable medium having stored thereon the computer program product comprising program code, for controlling a processor. However, the program code as claimed does not produce any “useful, concrete or tangible results” that has a real-world practical application. Moreover, the claims are directed to an abstract idea rather than a practical application of an abstract idea which would produce a “useful, concrete or tangible results.” In other words, merely manipulating data not tied to the real-world is not patent eligible subject matter, *see In re Warmerdam*, 31 USPQ2d, 1354. Accordingly, the claims fail to provide a practical application and is insufficient to establish a real world “tangible” result.

10. Devoid of such, applicant’s claimed invention is an abstract idea e.g., a computational model or a mathematical manipulation of a function or equation. A process that merely manipulates an abstract idea or performs a purely mathematical algorithm is non-statutory despite the fact that it might inherently have some usefulness. *see In re Sarkar*, 588 F.2d at 1335, 200 USPQ at 139, wherein the court explained why this approach must be followed:

No mathematical equation can be used, as a practical matter, without establishing and substituting values for the variables expressed therein. Substitution of values dictated by the formula has thus been viewed as a form of mathematical step. If the steps of gathering and substituting values were alone sufficient, every mathematical equation, formula, or algorithm having any practical use would be per se subject to patenting as a “process” under 101. Consideration of whether the substitution of specific values is enough to convert the disembodied ideas present in the formula into an embodiment of those ideas, or into an application of the formula, is foreclosed by the current state of the law.

11. A claim is limited to a practical application when the invention as claimed, produces a concrete, tangible and useful result; i.e., the invention recites a steps or a process or act of

Art Unit: 2121

producing something that is concrete, tangible and useful. *See AT &T*, 172 F.3d at 1358, 50 USPQ2d at 1452. *See* MPEP § 2106(IV) The claimed invention as a whole must accomplish a practical application. That is, it must produce a “useful, concrete and tangible result.” *State Street*, 149 F.3d at 1373, 47 USPQ2d at 1601-02. Remember, the claims define the property rights provided by a patent, and thus require careful scrutiny. Therefore, it is not enough to set forth invention in the specification. The claims must also reflect the scope and breath of applicant’s invention. *In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in the claim are not read into the claim. *In re Prater*, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-551(CCPA 1969). The situation in this application appears to be more difficult since it does not appear that the practical application is contained within the specification.

### Response to Argument(s)

12. As mentioned above, *see In re Comiskey*, Case No. 2006-1286, at 8, 16 & 17 (Fed. Cir., September 20, 2007). Only if the requirements of § 101 are satisfied is the inventor “allowed to pass through to” the other requirements for patentability, such as novelty under § 102 and, non-obviousness under § 103. Moreover, “...when an abstract concept has no claimed practical application, it is not patentable.”

13. The claims fail to provide a “useful, concrete or tangible result.” Moreover, there must be a practical application, by either (1) transforming (physical thing) or (2) by having the **FINAL RESULT** (not the steps) achieve or produce a “useful” (specific, substantial, AND credible), “concrete” (substantially repeatable/non-unpredictable), AND “tangible”

Art Unit: 2121

(real world/non-abstract) result. Merely manipulating data not tied to the real-world is not patent eligible subject matter *see In re Warmerdam*, 31 USPQ2d, 1354. Finally, in the case of applicant's claimed invention, once a condition is finally established, what do you do with it? Moreover, what physical process are we talking about?

### Examiners Summary

14. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

15. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

### Correspondence Information

16. Any inquires concerning this communication or earlier communications from the examiner should be directed to Michael B. Holmes, who may be reached Monday through Friday, between 8:00 a.m. and 5:00 p.m. EST. or via telephone at (571) 272-3686 or facsimile transmission (571) 273-3686 or email [michael.holmesb@uspto.gov](mailto:michael.holmesb@uspto.gov).

Art Unit: 2121

If you need to send an Official facsimile transmission, please send it to (571) 273-8300.

If attempts to reach the examiner are unsuccessful the Examiner's Supervisor, Anthony Knight, may be reached at (571) 272-3687.

Hand-delivered responses should be delivered to the Receptionist @ (Customer Service Window Randolph Building 401 Dulany Street Alexandria, VA 22313), located on the first floor of the south side of the Randolph Building.

Finally, information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Moreover, status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have any questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) toll-free @ 1-866-217-9197.

***Michael B. Holmes***

Patent Examiner

Artificial Intelligence

Art Unit 2121

United States Department of Commerce

Patent & Trademark Office

*Wednesday, October 10, 2007*

*MBH*

A handwritten signature in black ink, appearing to read "Michael B. Holmes", with a stylized flourish at the end.